SPECIFICATION AMENDMENTS

Please amend the specification as follows:

Substitute paragraph [0007] with the following:

[0007] The watermark can be regarded as an additive signal w, which contains the encoded and modulated watermark message b under constraints on the introduced perceptible distortions given by a mask M so that:

$$x = s + w(M),$$

where x is a watermarked signal and s is an original unmarked signal.

Substitute paragraph [0034] with the following:

[0034] If, for example, the good is an image I, the transformer 220 may resize it to a fixed size via interpolation and decimation[[;]], apply DWT to resulting image, and obtain the DC subband, $\mathbf{I}_{DC}$. Let N be the number of coefficients in $\mathbf{I}_{DC}$. The transformer 220 reorders $\mathbf{I}_{DC}$ to get $N \times 1$ host data $\mathbf{s}$.

Substitute paragraph [0042] with the following:

[0042] If, for example, the good is the above-referenced image I, the partitioner 230 pseudo-randomly generates sufficiently large M polygons (e.g., regions 310-322 and regions 410-428) represented by $\{R_i\}_{i=1}^{M}$ $\{R_i\}_{i=1}^{M}$ together with corresponding pseudo-random weight vectors $\{\alpha_i\}_{i=1}^{M}$, $\{\alpha_i\}_{i=1}^{M}$, thereby forming the corresponding pseudo-random transformation matrix T_1 of size $M \times N$, where N is a number of some amount.

Substitute paragraph [0047] with the following:

[0047] An example of a specific hashing function calculation given by Equation 1 below (in a later paragraph).

Substitute paragraph [0054] with the following:

[0054] The pseudo-random statistics for a chosen region are based on "rational" statistics. More particularly, the rational statistics are based upon a quotient of two ~~weighted linear statistical combinations~~ weighted, linear, statistical combinations. More particularly still, the rational statistics are based upon a hashing function employing a quotient of two weighted, linear, statistical combinations. An example of a specific hashing function employed by at least one implementation is given below by Equation 1.

Substitute paragraph [0068] with the following:

[0068] The goods obtainer 510, the transformer 520, the partitioner 530, and the region-statistics calculator 540 of the watermark detecting system 500 of Fig. 5 function in a similar manner as similarly labeled components of the watermark embedding system 200 of Fig. 2. The exception is that the object of these components is a "subject good" (Y) rather than the original good (S). The origin of a ~~"subject" good~~ "subject good" is an unknown. It may or may not include a watermark. It may have been modified.

Substitute paragraph [0078] with the following:

[0078] Fig. 6 shows a methodological implementation using the digital-goods hashing function (depicted above in Equation 1, in a paragraph above). This methodological implementation may be performed in software, hardware, or a combination thereof. For ease of understanding, the method steps are delineated as separate steps; however, these separately delineated steps should not be construed as necessarily order dependent in their performance.

Substitute paragraph [0088] with the following:

[0088] At 618: For each chosen region R_i, the I computes the random "rational" statistics as a hash value using the digital-goods hashing function of the above Equation I (in a paragraph above). That equation is reproduced here for ease of reading:

$$h_i = \frac{\sum_{j \in R_i} \alpha_{ij} s_j}{\sum_{j \in R_i} b_{ij} s_j}$$

where $b_{ij} = \frac{1}{|R_i|}$ if $s_j \in R_i$ and $b_{ij} = 0$ otherwise, and $|\cdot|$ denotes the cardinality of a finite set.